

# W5YI

America's Oldest Ham Radio Newsletter

## REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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November 1, 1996

## Congress Orders Reallocation of 13-cm Amateur Radio Spectrum

The 104<sup>th</sup> Congress adjourned October 3, the day after the Senate concluded its business. Much of the important legislation in the final hours was wrapped into the 2,000 page omnibus budget resolution, HR 4278.

Unfortunately, the following language was included in this bill --- now Public Law 104-208. This bill was signed into law by President Clinton on October 4, 1996. Here is the text of the legislation:

### TITLE III -- SPECTRUM PROVISIONS

#### SEC 3001. COMPETITIVE BIDDING FOR SPECTRUM

##### (a.) COMMISSION OBLIGATION TO MAKE ADDITIONAL SPECTRUM AVAILABLE -

The Federal Communications Commission shall --

- (1) reallocate the use of frequencies at 2305-2320 megahertz and 2345-2360 megahertz to wireless services that are consistent with international agreement concerning spectrum allocations; and
- (2) assign the use of such frequencies by competitive bidding pursuant to section 309(j) of the *Communications Act of 1934* (47 USC 309(j)).

##### (b.) ADDITIONAL REQUIREMENTS --

In making the bands of frequencies described in subsection (a) available for competitive bidding, the

Commission shall --

- (1) seek to promote the most efficient use of the spectrum; and
- (2) take into account the needs of public safety radio services.

##### (c.) EXPEDITED PROCEDURES --

The Commission shall commence the competitive bidding for the assignment of the frequencies described in subsection (a)(1) no later than April 15, 1997. The rule governing such frequencies shall be effective immediately upon publication in the Federal Register....

##### (d.) DEADLINE FOR COLLECTION --

The Commission shall conduct the competitive bidding under subsection (a)(2) in a manner that ensures that all proceeds of the bidding are deposited in accordance with section 309(j)(8) of the *Communications Act of 1934* not later than September 30, 1997.

### What does this language mean?

On the surface it appears to mean that Congress and President Clinton have authorized the 2305 to 2310 MHz segment of our Amateur Band to be transferred into the pool for auction and competitive bidding to commercial interests, and that it will be removed from the Amateur Radio Service. That still leaves the 2300-2305 MHz segment for



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Amateur operations ...at least for the moment. At this time no one knows exactly when the 2305 to 2320 MHz band will be auctioned and if the 2305 to 2310 MHz segment will be removed from Amateur use. The new law requires the competitive bidding to begin within six months.

According to Brad Wyatt, K6WR, ARRL Pacific Division Director, the League has worked with the key Congressional members to avoid this outcome -- and hoped that they would be successful. During the final two weeks of the 104<sup>th</sup> Congressional session, "...the ARRL repeatedly submitted written and verbal statements to the key Congressmen asking that Congress stay out of the direct spectrum allocation business as it has in the past." But, it was to no avail.

Congress has now directed that the 13-cm spectrum should be quickly reassigned as part of the budget and deficit reduction process. In short, the radio spectrum represents "big dollars" to the U.S. treasury. Commercial interests have already paid more than \$20 billion to the government in recently held spectrum auctions. And you can certainly expect this trend to continue. "Sell everything in sight," continues to be the policy.

## What did the ARRL say?

Obviously, Congress has adjourned and will not return until Jan. 1997. ARRL says it will continue to press this issue from various angles as best as can be done with Congress adjourned and out of Washington DC. The League plans to take up this issue with the 105th Congress in January 1997.

"In the meantime, you, individually, might want to press this matter with your local Congressman when he or she is home campaigning for re-election in the next month or so."

## Background information

The fact of the matter is that this band was reallocated in 1995 from the government spectrum arsenal to the private sector specifically for eventual commercial use. The 1993 Omnibus Budget Reconciliation Act (OBRA) is probably best remembered by the Amateur community at the legislation that provided for Vanity Amateur station call signs. But it also provided for the transferring of government spectrum to non-government use and the ensuing auction process which has raised billions for the U.S. treasury.

The 1993 OBRA required the National Telecommunications and Information Agency (NTIA is the White House telecommunications advisor) to identify 200 MHz of federal government spectrum for reallocation to the private sector over the next fifteen years. In February 1995 the NTIA and FCC adopted a (First Report and Order) plan for allocating the first 50 MHz of spectrum

which included the 2390-2400 MHz and 2402 to 2417 MHz bands which are shared with the Amateur Service. These bands are now allocated to unlicensed personal communications and Part 15 devices. The good news is that the Amateur Service was upgraded in these bands from secondary to primary status. That means that the unlicensed devices are offered no protection from Amateur use of these bands.

The NTIA schedule for transferring the 2300-2310 MHz segment to non-government use was initially set at August 1995. It was later extended to 1996. The 2300 to 2310 MHz band is now the subject of an FCC allocation proceeding which now must be addressed quickly. Unlike the other 13-cm band segments where the Amateur Service was upgraded to primary status, the 2300 to 2310 MHz segment is currently allocated to the Amateur Service on a secondary basis.

According to Benn Kobb's (KC5CW) new third edition of the *"Spectrum Guide"* the U.S. government used this band for military radar tests and enemy radar simulations; scoring of air-to-air missiles against drone targets; antenna experimentation and certification of defense navigation systems. And provision was made for these uses to continue on a non-interference basis.

The 13-cm band is considered essential to current and future Amateur Radio satellite, weak-signal, and data operations. NASA is also concerned that future commercial use of this band could cause interference to its Deep Space Network.

There is hope that any new commercial services that "purchase" the spectrum will be able to coexist with the Amateur Service. But that certainly is far from assured. An October 1995 NTIA report entitled *Land Mobile Spectrum Planning Options* suggests that 2300 to 2310 MHz has potential for new, non-Federal radiolocation, fixed and mobile communication technologies.

It is unknown at this time whether Amateur Service operations will be removed from the 2300-2310 MHz band. Current Amateur uses include point-to-point linking, beacon, Earth-Moon-Earth, weak signal and experimental communications. The ARRL has suggested that displaced Amateur operations might be reaccommodated in other 13-cm spectrum, such as the 2360-2390 MHz band.

## AMATEUR RADIO WEEK - OCT. 7 TO 13, 1996

President Bill Clinton has sent greetings to the Amateur Radio community during the week leading up to the October 12-13 Simulated Emergency Test. While the President's message refers to "Amateur Radio Week," it is not a formal Presidential declaration as earlier reported.

ARRL member Darlana Mayo, KB2EPU, of Mt



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Vernon, New York, worked with the White House for several months to get the greetings. Mayo said she wanted the president to "...be aware of our value to the community--particularly in emergencies."

Mayo—a ham for 10 years—is a member of ARES and RACES, and serves as an assistant director and an assistant emergency coordinator in the Hudson Division.

Here's the text of the White House message, which was signed by President Clinton:

"Warm greetings to everyone observing October 7 through 13, 1996, as Amateur Radio Week.

In the past century, the medium of radio has changed the way we live and the way we view our world, and Amateur Radio operators have played a vital role in this communications phenomenon.

Sharing knowledge and technological expertise, connecting computers via radio equipment, and linking people all across the globe, ham radio operators have helped to make our world a true global village. But even more important, they have provided a crucial lifeline of relief in times of disaster and hardship, ensuring that hope and help are on the way to those in need.

Amateur Radio Week offers us a welcome opportunity to thank our nation's amateur radio operators for their commitment to excellence and their willingness to work for the well-being of others.

Best wishes for a wonderful week."

### ARRL REPORT ON REGION 1 IARU MEETING

The Administrative Council of the International Amateur Radio Union met in Tel Aviv, Israel, October 6-8, after the IARU Region 1 conference there. The council took the following actions:

1. After consultation with the International Secretariat, the council identified the ITU meetings during the coming year that require IARU representation, and the president announced the appointment of representatives.
2. The council agreed on instructions to be given to the IARU 1997 World Radiocommunication Conference (WRC-97) delegation. The International Secretariat will update this material as new information becomes available. The delegation will consist of IARU Vice President Michael Owen, VK3KI, Wojciech Nietyksza, SP5FM, and Larry Price, W4RA.
3. The council adopted a budget for 1997-1999, as submitted by the International Secretariat. The budget provides for financial contributions from the three regional organizations to defray a portion of the expenses that are assumed by the International Secretariat beyond its constitutional obligation.
4. The council received a comprehensive report from the 7 MHz Strategy Committee, and updated the strategies guiding IARU preparations for the possible consideration of related allocations issues at WRC-99. The approved action plan will be distributed to member societies.
5. The council updated the IARU Strategic Plan for the

Development of Amateur Radio. In recognition of the special circumstances in Africa, the council created a special committee under the chairmanship of Hans van de Groenendaal, ZS5AKV, to develop a plan to marshal global resources to enhance the position of Amateur Radio in Africa.

6. The council reviewed and updated present and anticipated future requirements for radio spectrum allocations to the Amateur and Amateur Satellite Services, particularly with regard to the low-frequency (LF) range, the 7-MHz band, the lower VHF range, and the microwave allocations.
7. The council began planning for IARU participation in the next world TELECOM (Geneva, 1999). The council also received reports from Regions 1 and 3 on their preparations for Amateur Radio participation in Asia TELECOM 97 in Singapore and Africa TELECOM 98 in South Africa, which is being organized by the respective regions in accordance with IARU policy.
8. The council received a report from the Future of the Amateur Service Committee (FASC). The Committee has completed a review of comments on its initial discussion document and is preparing a further paper on the subject of possible revisions to Article S25 of the international radio regulations, which is expected to be considered at WRC-99. [See next page.]
9. An extensive report on the utility of beacon stations in the Amateur Service was received from an ad hoc committee, and recommendations adopted.
10. The Ad Hoc Communications Planning Committee submitted a detailed report, which recommended increased emphasis on explaining the work of the IARU. A Public Relations Committee will be appointed to carry out this work.
11. The council reappointed to new terms the international coordinators and advisers who report to it on specialized areas of interest. They are: Robert E. Knowles, ZL1BAD, IARU Monitoring System, John G. Troster, W6ISQ, IARU Beacon Project, Hans van de Groenendaal, ZS5AKV, IARU Satellite Adviser, and Christian M. Verholt, OZ8CY, IARU EMC Adviser.
12. The council reversed its previous decision to decouple its meetings from regional conferences, and decided that its next regular meeting would be held in Beijing, China, September 13-15, 1997, following the Region 3 conference.
13. The council confirmed that the theme for World Amateur Radio Day, September 20, 1997, will be "35 Years of Amateur Radio in Space."
14. The International Secretariat reported on the status of the IARU Web site, <http://www.iaru.org>, which is now functionally independent of the ARRLWeb site. The three regional organizations announced plans to establish Web sites of their own, linked to that of the IARU and of those member societies in the respective regions that have established a Web presence.

The members of the Administrative Council are IARU President W1RU, Vice President VK3KI, Secretary W4RA, and regional representatives PA0LOU, SP5FM, VE3CDM, YV5BPG, 9M2SS, and HL1IFM. Additional regional observers invited to be present were 6W1KI, ZS5AKV, VP9IM and JJ1OEY.



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## AMATEUR RADIO IN THE 21<sup>ST</sup> CENTURY

The World Radiocommunications Conference 1995 adopted a resolution calling for the consideration of the international amateur and amateur-satellite service regulations (Article 25) at WRC-99 with a view to making appropriate changes to the Radio Regulations that might be needed. To determine the needs, the International Amateur Radio Union formed the *Future of the Amateur Service Committee* (FASC) consisting of Chairman Michael Owen VK3KI and members John Bazley G3HCT, Tom Atkins VE3CDM, Terry Carrell ZL3QL, Larry Price W4RA and David Sumner K1ZZ. In April 1996, a Discussion Paper asking several questions about Amateur Radio in the next century was prepared and distributed to the various amateur radio societies of the world. The FASC presented the initial comments at the Tel Aviv IARU Region 1 meeting October 6-8. Here is a capsule version of that report which was written by Michael Owen of Australia.

### Introduction

"The purpose of this Discussion Paper is to provide a basis for informed debate by the amateur community on the issues that are raised. It attempts to identify the relevant issues, provide the background, and offer some possible solutions. It is a discussion paper; and should not be interpreted as expressing any final view of the Committee, or the view of any region or the Administrative Council."

### The definition of the "amateur service":

We pointed out that the definition has not been significantly changed since the first international regulation of radio, and expressed the view that it remains entirely appropriate today. We asked: Is the definition of the "amateur service" still appropriate?

JM1UXU, SSA (Sweden), RSGB (Great Britain), O.V.S.V. (Austria), WIA (Australia) agreed with our conclusion. However, AMSAT-NA suggest the deletion of the words "interested in radio technique", pointing out that the interests of radio amateurs are far broader than those words suggest.

We believe that this proposal deserves further discussion. We ask do those words, in fact or potentially, limit legitimate amateur activities? Or, do they reinforce the reason that the services exist?

### The banned country list:

We asked: Should the Radio Regulations leave it to administrations to prohibit or permit their amateurs to engage in international communications, or should the international Regulations themselves prohibit such communications if one country objects? Does it matter?

SSA feels that no change is necessary, O.V.S.V. believe there is no need for the present restriction. Overall, more supported our suggestion than opposed it.

### The amateur service as a resource for emergency communications:

In the Discussion Paper we examined the many international declarations that recognize the value of the amateur service as a resource for emergency communications. We asked: Should Article S25 include a provision encouraging the amateur service to have the experience to and to provide emergency communications? Does the prohibition of international communications on behalf of third parties inhibit the development of emergency communication nets? Is the ability of

the amateur service to have the experience to provide and to provide emergency communications inhibited by the nature of the messages permitted to be transmitted by amateur stations? JM1UXU, advocates caution in this area, arguing that such activities are not "proper", but rather incidental activities for the service. SSA and JM1UXU both look to Resolution 640 rather than a change to S25. However, most see the ability to provide emergency communication as important, and a number saw the desirability of a provision facilitating such activity.

### Messages on behalf of a third party:

We do not question the right of an administration to prohibit its amateurs from carrying messages on behalf of a third party. We do believe that any messages so carried must be non commercial and not carried for reward. We question whether or not the attitudes that existed when the international prohibition was included in the Regulations have changed. We also raise the question whether the prohibition is really consistent with the international use of store and forward techniques. Should the international prohibition remain in the Regulations? Would its removal enhance the ability of the amateur service to provide emergency communications?

We discussed S25.2 in the context of carrying messages on behalf of a third party. JM1UXU suggests that the prohibition could be removed, or at least special provision inserted to deal with emergency communications, while others took a different view. O.V.S.V. agreed that it should be left to each administration to limit or not limit "third party traffic", so long as it was in accordance with the "main" definition of the amateur service. Several submissions addressed the phrase "in plain language. The provision reads:

S25.2 (1) When transmissions between amateur stations of different countries are permitted, they shall be made in plain language and shall be limited to messages of a technical nature relating to tests and to remarks of a personal character for which, by reason of their unimportance, recourse to the public telecommunications service is not justified.

A number supported the concept of "plain language". RSGB points out that "plain language" should mean that the details of any coding used must be publicly available, and transmissions that are deliberately encoded to conceal meaning should be the subject of the ban. AMSAT-NA interpret the phrase the same way. RSGB suggest that the restriction should remain, and trying to remove it may cause adverse reaction. We agree that plain language encompasses any code that is available generally, and that what is prohibited is any encryption intended to conceal meaning.

### Technical and operational qualifications to be an amateur:

In our Discussion Paper we suggested that the technical and operational qualifications to be an amateur are fundamental to the privileges that are given to the amateur service. We said that the appropriate qualification is essential to distinguish the amateur service from other use of the spectrum. We pointed out that the present Regulations do not set a "standard," but leave that to each administration. If it was considered desirable that some standard be set, we said that we would not suggest an elaborate curriculum, rather the identification of basic topics on which knowledge should be demonstrated.

We asked: Should the Article set some standard for the technical and operational qualifications for the amateur service? How can this be made flexible? Our concern that



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the present provisions may not be meaningful was reinforced by the example given to us of the question "What is 'a'?" with response "di-dah" being sufficient to qualify the morse test. SSA prefers the present position which provides flexibility.

...On the other hand, we did receive suggestions of a quite elaborate and multi level license structure. We question whether that is the proper role of the international regulations - how can the international regulations define a licensing structure that can meet the different needs of all administrations?

## Morse code:

We did not question the value of morse code as a means of communication, nor did we question the right of an administration to require its amateurs to demonstrate a skill in morse code. At present, morse code as a qualification is a treaty obligation. We said that we had regard to the fact that we were concerned with obligations that will govern the amateur service in the next century. We asked: Should testing the morse code ability of certain amateur licences be retained as a treaty obligation? If so, what are the reasons that administrations would find persuasive?

This issue attracted by far the greatest response, particularly from U.S. amateurs. Very many addressed this issue alone, seeing it as more important, we assume, than what we saw as the prior question of qualification in general terms. Many opposed our suggestion that the requirement should cease to be treaty obligation, though many did not address the issue in the context of a treaty obligation.

On the other hand, we received some careful arguments in favor of taking the requirement out of the international regulations and leaving it to administrations to determine whether the morse is a licensing requirement for their country. A number of societies are still considering the matter, and we do not feel that we can take the discussion further at this stage.

We would find it unfortunate if this single issue was allowed to overshadow the many other and we think equally important issues that are raised.

## The international recognition of amateur licenses:

We pointed out that many countries accept a home country driving license to allow visitors to drive in their country. We asked whether an amateur should be able to visit another country and during that visit be able to use his home country license? We examined the CEPT arrangements for Europe, and the CITEL arrangements for the Americas. We suggested that Article S25 could include provisions facilitating such use.

We asked: Should the Article include a provision facilitating the international recognition of amateur licenses of visiting amateurs? If so, would the prospects of the acceptance of such a provision be enhanced if the Article set a standard for the technical and operational qualifications of amateurs?

This suggestion, while supported by some, did not receive the support we expected. For example, SSA sees the difficulties as probably being too great to meet a need that they see as desirable, and others questioned whether it is the role of the ITU to facilitate such matters.

## The amateur satellite service:

We examined the definition of the amateur satellite service, and had a concern that the service is restricted to space stations on "earth satellites". We said that we did not know whether that restriction could present a problem in the future. We also looked at the measures to ensure that amateur satellites do not cause harmful interference. We asked: Should

the amateur service seek a change to the definition of "amateur satellite service"? Should any other change to the provisions governing the amateur satellite service be sought? AMSAT-NA supported our concern in respect "earth satellites". The separate definition of the service is supported.

## General approach:

It is obvious, we think, that proposals for change should be approached with caution, despite the opportunity that is identified in our terms of reference to examine the international regulations "with a view to formulating the changes, if any, that are desirable to properly reflect the objects, needs, obligations and privileges of the services for the next century, so that the services remain viable and valuable, meaningful and relevant to both the community and to those licensed in the services."

Some warn that the revision of Article S25 should be limited to the minimum absolutely necessary, avoiding any attempt to impose obligations on countries. Change for change's sake should be avoided.

An issue has been raised with us in relation to improving the language of S25. There is no doubt that the language could be improved. ...We welcome such suggestions, but only on the basis that whether or not such proposals are pursued will depend on a judgement made much closer to the WRC and balancing the value of such change against the risk of making the proposal.

## Conclusion

While some have very clear views on a number of matters, it is clear that many others, particularly the member societies are still investigating and considering the issues.

It is also the fact that we have not received what we would regard as sufficient (or any) input on some matters. An example is the lack of views from the smaller societies, particularly from the less developed countries, in relation to the question of the international regulations setting the qualification for amateurs.

A number of those communicating with us have asked for proposals to put to their administrations. We believe that is premature. There are, at this stage, divergent views on many of the issues that are raised. The amateur services will only succeed in achieving their objective if the member societies speak with one voice, all taking a common view. That is not possible at this time. For ourselves, we cannot offer any proposals that we would feel confident either represent a view that would be acceptable to the majority of either societies or amateurs or, indeed, do we feel we could be confident represents a position that we ourselves can say is the best view.

Accordingly, we find that we are not able to make any recommendations at this time other than to recommend that the evolutionary process we have proposed should be allowed to take its course. We continue to seek the views of individuals, groups and societies, and will be particularly interested in the discussions at the forthcoming regional conferences. We welcome further comments. Please communicate to the Committee as follows:

**By mail:** IARU FASC, c/o IARU International Secretariat, P.O. Box 310905, Newington, CT 06131-0905 USA

**By FAX:** 860-594-0259 - "To IARU FASC, c/o IARU International Secretariat"

**By electronic mail:** [iaru@iaru.org](mailto:iaru@iaru.org) (Subject: "To: IARU FASC")



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## EMERGING TECHNOLOGY

■ **High speed satellite downloading from the Internet** is being rolled out by Hughes Corp. With "DirecPC," Internet users will be able to download data more than ten times faster (at 400 kbs) than with conventional telephone lines and modems ...and three times faster than ISDN. For example, a 400 page document can be downloaded in less than one minute with DirecPC. Data requests are initiated by modem and routed to a control center. Cost is \$699 for a special 21" elliptical dish hardware package ...and there is a hefty monthly fee. The DirecTV (18" dish) consumer DBS package can not be used to download from the Internet. Distribution of the hardware will be through CompUSA.

■ **Audio Highway is a new firm that uses the Internet to deliver audio content offline.** The service allows consumers to download audio information, books or music from a website without charge. An hour's worth of audio content can be downloaded to a special portable (\$299) digital recorder in about three minutes. You then either listen to the audio through headsets ...or over an FM band radio placed near the recorder. Consumers get the audio free in exchange for putting up with 3 minutes worth (ten 30 second spots) of advertising. Audio Highway (<http://www.audiowhy.com>) charges the advertiser for each ad spot.

■ **U.S. Robotics has new software that allows people to download (but not transmit) data at 56,000 bits per second** - twice as fast of regular telephone line modems. The new "x2" technology will be used by more than 30 on-line service companies ...including America Online. It will be available early next year.

## COMPUTER INFO

■ **Microsoft makes \$43 on every copy of Windows 95 installed on a computer.** That's \$10 more than for the previous Windows 3.1 version. 75% of all new PCs now come with Windows 95 pre-installed. Microsoft made \$100 million more profit in the quarter ended September 30 than a year ago.

■ **Determining the fine line be-**

**tween "monopolistic behavior" and "dynamic competition?"** is what the U.S. government must now decide. Netscape has answered the introduction of Microsoft's latest version of its web-browsing software, the Internet Explorer 3.0 by firing off a complaint to the U.S. Justice Department. They accuse Microsoft of "predatory behavior" by selling its browser at intolerably low prices and signing contracts with large Internet Service Providers (ISP) who name the Internet Explorer as its preferred browsing software.

AT&T's agreement is for Microsoft to put their WorldNet software (in addition to the Microsoft Network) on the Windows 95 operating system in exchange for AT&T preferential treatment of the Internet Explorer. The Prodigy online, and MCI/Sprint Internet services are also in the process of entering into similar arrangements. Netscape doesn't like it.

Bill Gates makes no bones about that as of May 1995, his number one goal is to dominate the Internet. And he is well on his way. In my opinion, Microsoft is going to win the "browser war." Why? Because they have more resources than any company on earth! Gates says he will give the "Explorer" browser away forever! Netscape can't ...and doesn't. A year ago, the Internet "Explorer" had a 1% share of the market. It now stands at 16%. I predict a 50% share a year from now. Millions of free "Explorer" browsers now come bundled with Windows 95. Talk about competition!

**How will Netscape survive the battle of the browsers?** By focusing elsewhere. And they have already started. Netscape is now concentrating on selling intranet products to business users. Intranets are internal (private) company networks. Netscape is profitable - but barely so. Microsoft on the other hand is now an \$80 billion company (with \$7 billion in cash) ...and \$2 billion in annual earnings. A year ago, Microsoft was a \$60 billion company!

■ **Intel, which makes 80% of the microprocessor chips in PCs,** says it will no longer make "forward looking forecasts." A new California voter initiative makes it easier for the public to sue a corporation for "stock market gyrations." "Proposition 211" allows juries to award punitive damages in class action suits against publicly traded companies. A "strike suit" is frequently initiated by shareholders when management makes positive statements about its company

which is followed by a 10% or more decline in its value. The volatile Silicon Valley technology sector is especially exposed to fraud suits since a fine line exists between product promotion and distortion. Corporate management that sell shares in their own company before a fall are particularly vulnerable. Intel has already been sued once but the case was dismissed. Dozens of other companies have not been so lucky!

## INTERNET NEWS

■ **Look out AOL, here comes MSN with a new direction, pricing and an entertainment-driven look!** It is estimated that Internet usage will more than triple to 100 million users within two years. More and more people are getting on the Internet through an access provider rather than via the consumer online service route.

Fourteen percent of the nation's 35 million PC households now have a direct Internet connection ...up from 7% just six months ago. Internet access is gaining on America Online which still uses proprietary technology rather than open Web standards. One of the big reasons for the market share increase among Internet Service Providers is their lower cost to the consumer!

Because of this trend, the Microsoft Network has trashed its original telephone dial-in access and is now based in the World Wide Web. The online Microsoft Network has relocated to the Internet and MSN now takes on a consumer TV-look in an effort to transform it into a mass medium. There are six "content" channels and 20 "shows" that are accessed from glitzy stages and storefronts.

Microsoft will spend \$100 million to promote MSN during 1997 alone and doesn't plan to show a profit for at least 3 years! The goal is for MSN to eventually be the dominate online entertainment, information and news service.

The MSN "repackaging" makes use of features (such as new proprietary animation) that can only be accessed with Microsoft's new Internet Explorer 3.0 browser and Windows 95! Unlimited MSN (and Internet) access will be priced at \$19.95 per month ...\$6.95 if you already have an Internet provider.

These costs give Microsoft a decided advantage in the Internet marketplace since the defacto pricing standard now is \$19.95 per month without the Microsoft



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Network. The thinking is that Internet users will switch to obtain MSN at no additional cost. With 1.6 million subscribers, MSN is already the third largest online service - behind American Online (6.2 million) and CompuServe (4.5 million.) AOL charges \$9.95 for five hours plus \$2.95 for each additional hour.

Microsoft CEO Bill Gates believes that the PC is destined to become the next widespread media tool. His ventures now include MSNBC - a tie-in with NBC television, CityScape, a local newspaper-type service and at least two online magazines. Although software continues to be their primary business, Microsoft has been steadily moving into online content. And the Microsoft Network will apparently be the base from which all of its media products will flow.

Microsoft also bought a stake in WebTV, a private company that has developed a way to surf the World Wide Web through a standard television set.

■ **Does the Internet present a serious credit card security problem to those who want to do business on the Web?** Probably not as much as most people think. But it has impeded the development of electronic commerce. Some large corporations are doing something about it!

AT&T and Federal Express are both rolling out new cyberspace commerce packages. The new AT&T package allows businesses to build a Web storefront, calculate sales tax and shipping costs and then processes credit card sales which are guaranteed against unauthorized use. That is, providing registered users pay with its AT&T Universal credit card. And consumers get 100 free AT&T long-distance minutes after spending \$25 online.

Federal Express also has a free "BusinessLink" package that permits businesses to build commercial Websites on its computer. As you might guess, customers must have their purchases shipped by Federal Express.

IBM has its World Avenue and CommercePoint electronic storefronts but doesn't offer a money back guarantee. Microsoft is also working on a system that will permit safe credit card use on the Web.

■ **American Airlines has a way for Internet users to save an additional 20% over its lowest BreakAAway fare.** American Airlines will send computer users an e-mail message to their

Internet address every Wednesday to alert them to **"Net SAAver" bargains** available the following Saturday ...historically their slowest travel day. Return flights may be through Tuesday. To get the weekly Net SAAver message, log onto the American Airlines website at URL: <http://www2.amr.com/cgi-bin/aans> and fill out the short form. You will receive an immediate acknowledging e-mail message. These fares, which are not available to the non-surfing public, help American fill up planes it determines will have extra capacity on the weekend.

## WASHINGTON WHISPERS

■ President Clinton took \$100 million from defense and domestic programs and shifted it to **creating a faster "Next Generation Internet."** He also formed a commission of corporate executives who will raise money to provide PCS, software, training and Internet connections for schools. It will cost a whopping \$40 billion to provide these services by the targeted year 2000!

■ **Microsoft (along with Apple, Compaq, Dell and Intel) are against the FCC's plan to declare a television industry-backed standard as the method to be used when shifting from analog to digital TV.** They say the broadcast technology does not work well with personal computers and could add up to \$500 to the cost of a television set. They prefer that the FCC allow marketplace forces to decide on which standard is best for the American public. The Clinton administration has now sided with Microsoft "...cautioning the FCC against hindering the convergence of the computer and TV industries." Television broadcasters are not happy!

■ **Selling radio spectrum at FCC auction is one thing ...getting paid is another.** Nine companies have defaulted on 31 wireless telephone licenses worth nearly \$131 million. The companies are subject to fines and face loss of the license by award to the next highest bidder or re-auction.

■ **Long-distance telephone rates are 50% lower than a year ago** and the pricing schemes are taking on a humorous soap-opera flavor. AT&T has a new program called "One Rate" offering 15¢-a-minute calling with no restrictions. In response, MCI filed a request with the

FCC to offer a 14.5¢ "True Rate." And Sprint has a well publicized dime rate. But it is available only during evening and weekend hours ...otherwise a 25¢/minute price applies.

Now comes word that AT&T is suing MCI over its use of the "True Rate" name and seeks its profit under the plan. AT&T says MCI's use of the word "True" constitutes unfair competition. AT&T has spent millions promoting "True Voice" long-distance, "True Savings" and "True Rewards."

■ **It now appears - at least for the moment - that the FCC will not be moving out of its present downtown Washington, DC headquarters after all.** The Commission currently has office space in multiple buildings. In 1988 it said that it needed a more consolidated location. After many delays, the Commission was scheduled to move to its new building early next year.

The reason for now staying put is the lack of funding to complete the move. Lawmakers refused to grant up to \$30 million the FCC claims it needs to relocate. And Congress also made it clear that the General Services Administration should not have to use its own funds to pay for the move. The GSA is the federal government's leasing agent.

The controversial move was opposed by most communications attorneys who have offices near the current downtown headquarters. Many FCC staffers also opposed the move due to easy public transportation access to the downtown Washington, DC area.

■ **Are you ready to pay twice as much for Internet access?** It could easily happen next year. Local telephone companies have charged long distance carriers access fees since the early 1980s. Supposedly the charge was to help pay for costs associated with hooking local customers up to the LD network as well to subsidize lower cost residential service.

Local telcos maintain that Internet Service Providers (ISP) are no different than long distance carriers in that they connect the outside world to their local telephone customer. Since 1983, "emerging telecommunications services" have been statutorily exempt from paying access fees. The telcos say that now ...more than a decade later, the Internet can no longer be considered a developing service. It has "arrived."

There can be no doubt that Internet usage has mushroomed in recent years



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and now places a big demand on the public telephone network. One person in eight is now online. And that number doubles every year. While an average phone call lasts 10 minutes, an Internet connection averages one hour which generates no revenue.

If local phone companies assessed ISPs just one cent a minute, it could add \$15.00 to \$20.00 monthly to the average Internet user's bill. Pressure is being put on the FCC to allow the fee.

■ **FCC trims its paperwork! The Federal Communications Commission has gotten rid of nearly 2,000 pages of internal management directives** and revised a number of others, resulting in a total reduction of more than half the pages of regulations that were in place just three years ago.

"Streamlining these regulations has made it possible for FCC employees to receive faster, more efficient support services, saving agency resources," the Commission said in an Oct. 7 news release.

The action was in response to a September 1993 "Executive Order 12861" which required each agency to eliminate 50 percent of its civilian internal management regulations that are not required by law within three years.

To meet this challenge, the FCC's Office of Managing Director established an Internal Regulations Task Force comprised of representatives from the major bureaus and offices. "Although this effort is continuing, as of September 11, 1996, the Commission has eliminated 77 directives (66.95 percent) and revised 10 others resulting in a reduction of 1,773 pages (56.97 percent)."

Examples of these reductions include reducing the "FCC Organization Manual" to a simplified handout and placing it on the FCC Intranet for easier, paper-free, access by FCC employees.

■ It apparently is not well known because we continue to get requests for FCC Form 753, but the **Commission has eliminated the requirement that Commercial Radio Broadcast station operators (such as disk jockeys who adjust station equipment) be FCC licensed.** Effective December 1, 1995, no license of any kind is required by the FCC to operate broadcast equipment. Most technicians and broadcasters had been obtaining the lifetime Restricted Permit, but this is no longer needed. The FCC holds the station licensee (owner) responsible for the quality of its trans-

missions and not its employees. Most station licensees, however, require their technicians and engineers to hold the General Radiotelephone Operator License (GROL).

## AMATEUR RADIO

• **Vanity Station Call Sign Update! At press time, the FCC still has yet to issue any Gate No. 2 Vanity call signs.** The reason is that the FCC/Gettysburg is busily keying in all of the first day's FCC Form 610-V applications that were received by courier, mail and hand delivered. Once this has been completed, these requests will be randomly folded in with the first day's electronically filed requests. Then the FCC will begin issuing Vanity call signs to Extra Class Amateurs by date of application receipt. The best guess (according to FCC's Larry Weikert) is that this could take until near the end of October. Nearly 6,000 Form 610-V's have already been received. Weikert provided us with a list of FCC Form 610-V Vanity call sign applications that he received the first two weeks:

### GATE NO. 2 VANITY CALL RECEIPTS

Date:	Paper Filed	Electronically Filed
9/23/96	4,188	339
9/24/96	328	29
9/25/96	395	18
9/26/96	117	12
9/27/96	96	19
1 <sup>st</sup> Week	5124	417
9/30/96	94	34
10/1/96	38	8
10/2/96	72	12
10/3/96	50	15
10/4/96	64	11
2 <sup>nd</sup> Week	318	80
Both Weeks	5443	497

■ While we are on the subject of Vanity call signs, it should be pointed out that **preferential call signs are not only being "taken" out of circulation, but many are being put back** into the pool.

The FCC purges call signs daily and more than five hundred choice one-by-two and two-by-one call signs have been put back into circulation during the past three weeks! These purged (newly available) call signs are from several sources. But primarily they are amateurs whose licenses were issued in 1984 and who failed to renew their licenses in 1994. Their two year "grace period" has now expired making the call sign available for

reissue.

We checked some FCC Amateur Call Sign Servers on the Internet's World Wide Web and find that, for the most part, they are not reflecting all purged call signs. Telephone us at: 1-800-669-9594 if you need an computer disk (IBM compatible) that contains all available preferential call signs (ASCII format) on a specific day. (Cost is \$15.95 plus shipping.) This disk takes into consideration all purged call signs ...and call signs that are unavailable because, while expired, are in the two year grace period.

■ **We are already getting requests from Amateurs on the correct procedure to apply for a refund** in the event a Vanity station call sign is not issued and the previous call sign is retained. Part 1 Sec. 1.1112(a)(1) (47 CFR 1.1112) of the FCC Rules authorizes a refund "When no fee is required for the application or other filing."

Amateurs who apply for a new vanity call sign and do not receive one will receive a "Dismissal Letter" from the FCC indicating the reason that a vanity call was not issued ...such as the applicant filed under the wrong "gate." In all cases, the funds will have already been deposited to the U.S. treasury. An informal letter must be written by the applicant (no special FCC form is needed) addressed to:

Federal Communications Commission  
Amateur Section, Vanity Call Signs  
1270 Fairfield Road  
Gettysburg, PA 17525-7245

...stating that you wish a refund of the \$30.00 regulatory fee.

In compliance with the *Debt Collection Improvement Act of 1996*, the FCC is required to collect the Taxpayer Identification Number and provide this number to the U.S. Treasury when authorizing a refund. Therefore, when submitting your written request for refund to the FCC, include your Social Security Number. The refund process usually takes about four weeks. Once the refund has been approved by the FCC, it is forwarded to the U.S. Treasury in San Francisco, California, where a check is issued.

Do NOT contact the Mellon Bank in Pittsburgh, PA concerning a refund since they only receive and deposit funds designated for the U.S. treasury and are not involved in refunds in any way. Questions concerning a refund should be directed to the FCC's Consumer Assistance Branch at: 1-800-322-1117.



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## FCC WORKING ON RF GUIDELINES BULLETIN

The FCC's Office of Engineering and Technology has completed a draft copy of the new OET Bulletin No. 65. This 85-page proposed bulletin is entitled "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation."

OET's Allocations and Standards Division prepared the publication for use in determining whether proposed or existing transmitting facilities, operations or devices are in compliance with the exposure limits for RF radiation that were recently adopted by the FCC.

The proposed chapter on "Operations in the Amateur Radio Service" explains:

- 1.) Certain amateur radio installations are now subject to routine evaluation for compliance with the FCC's RF exposure guidelines.
- 2.) Amateur licensees are expected to demonstrate their knowledge of the FCC guidelines through examinations.
- 3.) Applicants for new licenses and renewals will be required to demonstrate that they have read and that they understand the new RF exposure rules.
- 4.) Certain actions to be taken before transmitting where the operation could cause human exposure to RF radiation levels in excess of the FCC guidelines.
- 5.) Amateur operations with less than 50 watts peak-envelope-power (PEP) are categorically excluded from routine RF radiation evaluation.

"It is expected that amateur organizations may develop their own more detailed evaluation models and methods for typical antenna configurations and power/frequency combinations, and the Commission in its Report and Order encouraged them to do so."

Toward that end, the bulletin shows a sample table illustrating the minimum exclusion distance between an antenna installation and the public environment.

"In this case, the antenna is a Yagi antenna operating at 21 MHz with five elements. The horizontal gain is assumed to be 10 dB, and the distances shown are in the main-beam, i.e. on-axis. These distances would really be only directly relevant if the exposures were expected to occur in a nearby location, e.g., a rooftop, that might be in the direct line-of-sight of the antenna. Ground-level power densities would be less and could be estimated by a knowledge of the antenna's vertical radiation pattern... Also, time averaging considerations can be taken into account in the determination of actual determination of exposure. The values in the table assume continuous exposure. ..."

The following table is a suggested "worst case" prediction for power density in the far field of an antenna. This table was preliminarily presented to certain people in the Amateur community (including your author) for comment. At this point, the new second edition of OET Bulletin No. 65 is only a proposal. For what it is worth, however, here is OET's suggestion of how the amateur community could simplify the RF exposure guidelines that apply to the Amateur Service.

Table 1. Sample table

ESTIMATED DISTANCES TO MEET RF POWER DENSITY GUIDELINES IN THE MAIN-BEAM OF A YAGI ANTENNA USED IN THE AMATEUR RADIO SERVICE - (TRANSMITTING FREQUENCY = 21 MHz.)

Transmitted Power/watts (watts/PEP)	Distance in meters to Controlled/Occupational* Limit of 2 mW/cm <sup>2</sup>	Distance in meters to Uncontrolled/General* Limit of 0.4 mW/cm <sup>2</sup>
100	2.0 meters	4.5 meters
500	4.5 meters	10.0 meters
1000	6.3 meters	14.1 meters
1500	7.7 meters	17.3 meters

### NOTES:

- (1) For illustrative purposes, calculations are for main-beam only. Field levels below main beam (e.g. ground level) would be significantly lower and would be dependent on vertical radiation pattern of the antenna, height above ground, etc. Main beam calculations could be relevant to such situations as when an antenna is on or near a rooftop or adjoining building and persons might have access near main-beam areas.
- (2) Calculations assume a five-element, Yagi antenna transmitting at 21 MHz with 10 dB gain.
- (3) MPE (maximum permissible exposure) limits for 21 MHz are approximately 2 mW/cm<sup>2</sup> - (controlled/occupational exposure) and 0.4 mW/cm<sup>2</sup> (uncontrolled/general population exposure.)
- (4) Equation 3 was used for calculating the entries in the table.  $S = \frac{PG}{4\pi R^2}$  S=power density  
P=power input to the antenna  
G=gain of the antenna relative to an isotropic radiator  
R=distance to the center of the radiator

\* = **Occupational/Controlled Exposure:** "...applies to situations in which persons are exposed as a consequence of the employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. ...the occupational/controlled exposure limits also apply to amateur radio operators and members of their immediate family."

\* = **General Population/Uncontrolled Exposure:** "applies to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related...."

"Another feature of the exposure guidelines is that exposures may be averaged over certain periods of time. ...the averaging time for occupational/controlled exposures is 6 minutes, while the averaging time for general population/uncontrolled exposures is 30 minutes. ...This means, that during any 6 minute time period a person could be exposed to twice the applicable limit as long as he or she were exposed at a zero level for the preceding or following 3 minutes. Similarly, a person could be exposed at three times the limit for 2 minutes as long as the exposure level is zero for the preceding or subsequent 4 minute period...."



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## BILL CLINTON, BOB DOLE AND THE INTERNET

By the time you read this, the presidential election will be only a week or so away. This election is quite different in one respect from others of year's past. High technology and telecommunications in particular is playing a role. Just how big that role is ...is anyone's guess.

Depending of who you believe, there are between 25 and 50 million adult Americans on the Internet. The digital world is expanding and changing so fast that research quickly becomes inaccurate. One thing we do know for sure, Net growth is going through the roof!

All major parties have a website. The Clinton/Gore Campaign is located at: <http://www.cg96.org/> The Dole/Kemp web pages are at: <http://www.dole96.com/> The URL for Perot/Choate is: <http://reformparty.org/>

How effective are they ...and who is visiting them? No one really knows for sure. There is a big difference between being accessible to the Net, a casual user or an avid surfer. The most accepted figure is that 25 to 35 million adults have accessed the Web recently.

Who are they ... and what are they doing? It used to be that 90% were white males who logged on from school or work. But that has changed. One-third are now women ...and 15% are black. And more than half go on line from home. Here are some figures ...primarily from Neilson Media Research, the ratings people:

- 17 percent (37 million) of:  
persons 16 and over have Internet access.
- 11 percent (24 million) of:  
persons have used the Internet in the past 90 days.
- 39.5 percent (84 million) of:  
persons age 12 and over have a PC in their home
- 8 percent (18 million) of:  
persons age 16 and over have used the World Wide Web in the past 90 days.
- 66 percent of Internet users are male who account for 77 percent of Internet usage.
- 25 percent of WWW users (10% of population)  
have an income level over \$80,000
- 50 percent of WWW users (27% of population)  
hold managerial or professional positions
- 64 percent of WWW users (29% of population)  
have at least a college degree
- 6 percent of online users  
go online everyday for news
- 30 percent of online users  
go online for news at least once a week
- 32 percent of online users  
identify themselves as Republican, 40 percent as independent, 29% as Democrat.

### **The best political information**

...doesn't come from candidate's websites. It comes from the few political sites that offer a mix of

news, analysis, polls and background material. The best two are AllPolitics (<http://allpolitics.com/>) and PoliticsNow located at (<http://www.politicsnow.com/>)

AllPolitics is a joint web project of ABC News, the Washington Post, Newsweek, the Los Angeles Times and the National Journal. PoliticsNow is the combined effort of CNN, USA Today, Time magazine and the Gallup Poll. Make it a point to visit these two sites before you enter the voting booth.

### **The candidates and the Internet**

The politicians courted Citizens Band users during its hey day. How many of you remember that Ronald Reagan's wife used the CB handle: "First Momma." The 1996 campaign emphasis has shifted to the Internet.

I have chosen not to visit the websites of the candidates for the same reason that I don't read a prospectus before purchasing a stock. My system (and I have a six figure profit) is to determine how neutral researchers and experts feel about a specific situation. You can't be well-informed listening to biased reporting. Here is the Clinton and Dole view on the Internet as reported by PoliticsNow and AllPolitics..

■ **Bob Dole** is in favor of fewer government restrictions and an open market. He has supported the removal of bans on encryption software to enable American companies to compete abroad. He would prefer to see better judgment on the part of content-producers, rather than a government ban that limits what material is available on the Internet for adults.

■ **Bill Clinton** is a strong advocate for the role of government to provide a safe environment for children online. Two Democrats, Sen. James Exon (D-Neb) and Timothy Johnson (D-S.D.) Introduced a bill whose goal was to amend the original decency standards outlined in the *Communications Act of 1934*. The *Communications Decency Act of 1995* (CDA) was eventually folded into the giant telecommunications reform bill that Clinton signed into law on February 8, 1996. The law made it a crime to transmit "indecent" or "patently offensive" material to minors on the Internet or other online networks.

On June 12, 1996, a panel of federal judges issued an injunction against the CDA, declaring it unconstitutional. The panel said the Internet "...deserves the broadest possible protection from government-imposed, content-based regulation" The Clinton administration has now asked the Supreme Court to overturn the federal court decision that struck down the controversial Internet indecency law. Sen. Exon who introduced the bill "...expects approval from the Supreme Court.

Clinton wants to connect every classroom by the year 2000 to the Internet. He has pushed for encryption tools with a key that allows law enforcement to decode digital data. Dole doesn't like this "big brother" proposal.